R & D STATUS REPORT

ARPA ORDER NO:	A418
PROGRAM CODE NO:	DO-C9
CONTRACTOR:	David Sarnoff Research Center
CONTRACT NO.:	N00014-93-C-0202
CONTRACT AMOUNT:	$676,870
EFFECTIVE DATE OF CONTRACT:	18 August 1993
EXPIRATION DATE OF CONTRACT:	17 August 1996
PRINCIPAL INVESTIGATOR:	John C. Pearson (609-734-2385)
TECHNICAL CONTRIBUTORS:	John Pearson, Paul Sajda and Clay Spence
SHORT TITLE:	Hybrid Pyramid / Neural Network Vision System
REPORTING PERIOD:	3/1/96 to 5/31/96

1 The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Defense Advance Research Projects Agency of the U.S. Government.

2 Ownership in Patent Data included herein is retained by the contractor/subcontractor pursuant to FAR 52.227-12.

Description of Progress:

Technical Progress

We have discussed with the NEL the types and variety of images and targets needed to evaluate our technology for aiding image analysts in real-world applications. We decided on the problem of detecting bomb-damaged structures. We have since visited the NEL to use the Directed-Search Testbed for selecting the positive examples for training and testing. We are in the process of preparing the data at Sarnoff for training. Training should begin early in June.

Breast Cancer Work to Continue

NIDL funding is expected for applying the HPNN technology to two separate problems in breast-cancer screening: 1) Finding microcalcifications (evidence of tumors) in mammograms. This is a continuation of our previous work which reduced the false-positive rate obtained by the Rossman laboratory of University of Chicago by a factor of two. 2) Detecting masses in mammograms.

Relationship with JWAC Continuing

The Joint Warfare Analysis Center has made some additional progress (to that described in our last report) in evaluating the HPNN technology. They have applied it to their own imagery, and report that in the initial tests it works well.

Summary of Substantive Information Derived from Special Events:

None.

Problems Encountered and/or Anticipated:

None.

Action Required by the Government:

None.

Financial Status

1. Amount currently provided on contract: $551,305
2. Expenditures and commitments to date: $524,125
3. Funds required to complete work: $125,565